

Group A-2

1. Humane Society of the United States
2. Center for Marine Conservation
3. Dr. Robbins Bat-stow
4. Dr. John Potter (incomplete) and "corollary comments (May 31, 2001).
5. Earth Island Institute, Phillips and Palmer, May 31, 2001
6. W. S. Leventhal (Pulse)
7. Cetacean Society International, Rossiter, May 30, 2001.
8. OrcaLab
9. Sirius, Dr. Michael Hyson (poor fax copy)
10. Greenpeace, Passacantando, May 18, 2001
11. Dr. Lee Tepley (phantom submarine comments)
12. The Erways
13. League for Coastal Protection
14. Dr. Ronald Schusterman et al.
15. International Fund for Animal Welfare
16. Earthtrust, Don White, May 31, 2001
17. Animal Welfare Institute, Ben White, May 29, 2001
18. Sierra Club, Olmer and Newman, May 29, 2001
19. Whale and Dolphin Conservation Society, Dolman

THE HUMANE SOCIETY OF THE UNITED STATES

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May 31, 2001

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RE: 66 FR 15375, Taking marine mammals incidental to Navy operations of
Surveillance Towed Array Sensor System (SURTASS) Low Frequency Active
(LFA) Sonar

Dear Ms. Wieting:

On behalf of the more than 7 million members and constituents of The Humane Society of the United States (HSUS), I am submitting these comments on the proposed rule to regulate the small take of marine mammals during U.S. Navy operations of SURTASS LFA sonar. The National Marine Fisheries Service (NMFS) proposes to authorize the take of small numbers of marine mammals during operations of SURTASS LFA sonar, subject to certain mitigation measures, including geographic restrictions on use.

The HSUS requests that the NMFS withdraw or substantially revise this proposed rule. The HSUS believes the proposed rule violates both the letter and intent of the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), and the National Environmental Policy Act (NEPA), and ignores the Precautionary Principle. We are deeply concerned about a number of provisions in the proposed rule, as well as with the NMFS' de facto adoption, as its required NEPA documentation, of the Final Environmental Impact Statement (FEIS) produced by the U.S. Navy. It is out contention that SURTASS LFA sonar will have a far from negligible impact on marine mammal species and stocks if it is deployed as currently proposed. Our comments will be presented in four sections -- General Comments, Comments Specific to the Proposed Rule, Comments Specific to the Letter of Authorization (LOA) Application, and Comments Specific to the FEIS.

Promoting the protection of all animals

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GENERAL COMMENTS

Monitoring and Reporting Takes

In §101(a)(5)(A)(ii)(II), the MMPA requires that the NMFS set forth regulations on the "requirements pertaining to the monitoring and reporting of [the authorized incidental takes of small numbers of marine mammals]." As noted by the Marine Mammal Commission in its comments on the draft EIS (October 27, 1999), the purpose of this provision is "to verify, when there is uncertainty, that the activity in question does not have non-negligible effects" on marine mammal species and stocks. As there are no empirical data on the impact of LFA transmissions on marine mammals at sound pressure levels (SPL) greater than 155 dB re 1 μ Pa¹, the impact of LFA transmissions on marine mammals (particularly those thought most vulnerable to impacts from low frequency sounds – the baleen, sperm, and beaked whales and elephant seals) between approximately 150 dB and 180 dB is inarguably uncertain, regardless of "reasonable" assumptions or empirical data using other sound sources, frequencies, and species. Therefore, monitoring marine mammals exposed to SPLs between 150 dB² and 180 dB is not only legally required but scientifically imperative.

Despite this requirement, the NMFS does not set forth any regulations in the proposed rule for monitoring or reporting of takings beyond the 180 dB sound field, thus violating the letter and intent of the MMPA. The proposed rule (and the FEIS) is based entirely on the assumption that no takings other than harassment and non-serious injury will occur at SPLs below 180 dB. Thus the LOA application requests authorization to take small numbers of marine mammals by harassment and non-serious injury only. By the Navy's (and the NMFS') own definition, these takes will occur between 120 dB and 180 dB (0% risk to 95% risk, respectively). Yet there is no proposed monitoring or reporting of impacts of LFA transmissions beyond the 180 dB sound field (other than through the Long Term Monitoring [LTM] program – see below).

The LTM program plans to provide annual estimates of the number of animals injured and harassed (through, *inter alia*, coordinating with stranding networks, although strandings would presumably be considered serious injuries), but given the lack of monitoring beyond the 180 dB sound field, it is difficult to see how these estimates will be other than pure guesswork. Stranding records are unlikely to provide direct evidence of causal links, unless qualified marine scientists are on-site during a stranding event to conduct necropsies on fresh specimens (as in the Bahamas incident [NMFS 2000] – however, this co-occurrence of a qualified scientist and

¹ All sound pressure levels (SPL) presented are referenced to 1 μ Pa at 1m; all received levels (RL) presented are referenced to 1 μ Pa rms. The maximum RLs for whales studied during the Low Frequency Sound Scientific Research Program (LFS SRP) were 150 dB (Miller *et al.* 2000) and 155 dB (Croll *et al.* 2000).

² Monitoring impacts at a RL of 150 dB as a lower limit is a minimum requirement – even better would be to set the lower limit for monitoring below 150 dB, down to the current "safe" level of 120 dB, in order to collect data seeking to verify the assumption that only harassment and non-serious injury occur between 120 dB (0% risk) and 180 dB (95% risk).

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stranded whales was an unusual event). Therefore the Navy will have few or no data with which to comply with its obligation (and plan) to 1) provide actual annual harassment and non-serious injury estimates; 2) verify the estimates predicted from modeling (see Table 4-10, LOA application; Table 4.2-10, FEIS); or 3) verify its assumption (with all the attendant uncertainties) that no serious injuries or deaths will occur between 120 dB and 180 dB.

The risk continuum assumes that 2.5% of exposed animals will be harassed or non-seriously injured at 150 dB, 50% at 165 dB, and 95% at 180 dB. If these assumptions are valid, there could be extremely large numbers of marine mammals harassed or non-seriously injured by LFA transmissions³. However, given that there will be no pre-, during, or post-transmission monitoring of marine mammals experiencing RLs lower than 180 dB (other than those who might be just outside the 1 km mitigation radius and observable by shipboard observers or within 2 km of the source vessel and located by the High Frequency Marine Mammal Monitoring [HFM3] sonar), it will be impossible for the Navy to ground-truth these assumptions. Should these assumptions be invalid and should even greater percentages of exposed animals be harassed and non-seriously injured or any percentages be seriously injured or killed at SPLs below 180 dB, the monitoring requirements as proposed will be unlikely or unable to determine this (see above about the low likelihood of stranding data identifying causal links with LFA transmissions).

In fact, the monitoring program in the proposed rule (specifically the pre-transmission monitoring for the presence of marine mammals and sea turtles) is designed to exclude marine mammals from the predicted "serious injury and death" impact zone within the 180 dB sound field surrounding the LFA sound source. The monitoring is not designed (in violation of law) to record what actually happens to marine mammals within the predicted "harassment and non-serious injury" impact zone between 120 dB and 180 dB. The monitoring program, in fact, is designed to result in the collection of no take data, as no marine mammals will supposedly be in the monitored zone (*i.e.*, within a 1 km radius of the LFA source vessel) during transmissions. The LTM program will be useless in providing real-time information on takings by harassment and non-serious injury, although it may have some limited efficacy in providing information on

³ For the purposes of argument, this reference to "large numbers" is not meant to contradict the NMFS' contention that this take level is "small" and "negligible" under the MMPA. However, for the record, *The HSUS does not agree with the NMFS' circular definition of "small" as the portion of a population whose taking would have a "negligible" impact, as found in 50 CFR 216.103. We believe the MMPA makes clear the Congressional intent to regard "small" and "negligible" (as is only logical) as related but separate concepts. The former refers to the number of animals biologically impacted (to whatever extent) by an action, while the latter then refers to the extent of the biological impact of that action on those animals. A small number of animals could be impacted to a non-negligible extent, for example, while a large number could be impacted to a negligible extent (which in fact is what the Navy is claiming will be the case with SURTASS LFA sonar). Congress clearly intended the "small take" exemption to apply to numerically small numbers of animals only, although the House Report clarified that this number could not (and should not) be specified precisely in the statute or regulations. Granting discretion to the regulatory agency, however, is not the same as saying "small" should be circularly defined!*

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long-term correlations of transmissions with changes in population productivity, distribution, and shading incident rates⁴. The monitoring program as presented is, in fact, a mitigation measure, whereas the MMI'A sets mitigation and monitoring apart as two separate requirements (see §101(a)(5)(A)(ii)(I) and (II)).

The 180 dB Criterion

The IISUS finds only hypothetical justification (primarily in subchapter 1.4.2.1 in the FEIS) for the establishment of 180 dB as the low frequency, intermittent or continuous sound criterion for the upper limit of acoustic harassment and non-serious injury for all marine mammals. Despite elaborate explanations in the LOA application, the FEIS, and the proposed rule that incorporate, *inter alia*, the results of limited scientific research; limited scientific discussion; questionable extrapolations (mostly from unrelated terrestrial species); and numerous assumptions (which the Navy considers conservative but which many bioacoustics and marine mammal experts do not), the 180 dB criterion for all marine mammals has no support from empirical data (and very limited support for some species from studies on small numbers of captive animals under non-ideal circumstances -- see Comments Specific to the Proposed Rule, p. 15386). The 180 dB sound field coincides with the distance from the sound source (1 km) that can most effectively be monitored visually and with passive acoustics; this appears to be the actual basis for choosing 180 dB as the "safe" level to which all marine mammals can be exposed without significant risk of serious injury or death.⁵

The LFS SRP demonstrated that exposures up to 155 dB (and often far lower, as low as 115 dB) caused small but measurable (and statistically significant) behavioral responses, including changes in vocalizations (Tyack and Clark 1998; Croll *et al.* 2000; Miller *et al.* 2000). The debate over the biological significance of these responses notwithstanding, if measurable behavioral responses occurred at these relatively low SPLs, it is as valid to hypothesize that non-negligible, biologically significant responses would occur at 180 dB (let alone at 165 dB or 175 dB) as to hypothesize that they would not. The SURTASS LFA documentation provides no rationale other than dubious extrapolations from human audiology" for choosing to accept the

⁴ Unfortunately, these long-term data will only form a picture -- and a fuzzy one at that regarding these parameters after years of the marine mammals in question being exposed to SURTASS LFA sonar. The results of the LTM program may eventually provide evidence that SURTASS LFA sonar is in fact quite harmful to marine mammals, but not until considerable damage will have been done.

⁵ In addition, as noted by the Marine Mammal Commission in its October 1999 draft EIS comments, since 180 dB is the SPL at which 95% of exposed marine mammals are expected to be harassed and/or non-seriously injured, 180 dB can hardly be seen as conservative. The usually accepted level for statistical significance is 5% -- this would be a truly conservative percentage when considering "safe" exposure levels (as the human auditory standards included in the FEIS confirm -- see Table 1-2). It is also arguable whether harassing or non-seriously injuring 95% of exposed marine mammals (or 50% of exposed marine mammals at 165 dB, which, given the large volume of water enclosed by this SPL, could be hundreds or thousands of animals) would qualify as "negligible" under the MMPA.

⁶ These extrapolations have not been ground-truthed (verified with empirical data) for marine mammals or peer-reviewed -- see subchapter 1.4.2.1 of the FEIS.

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latter hypothesis. *Unless and until the Navy and the NMFS can provide an empirically-based rationale for choosing 180 dB as the upper limit for acoustic harassment and non-serious injury, rather than any other value between 150 dB and 180 dB, the 120 dB criterion currently in use should not be abandoned.*

The IISUS notes that the FEIS and the LOA application also lack a scientific rationale for choosing to extrapolate from human auditory standards to establish a "safe" level of 180 dB for marine mammals while establishing a "safe" level for human divers (based on empirical studies of the effect of LFA transmissions on Navy divers) of 145 dB. Interestingly, the 145 dB criterion is based on a 2% "very severe aversion reaction" standard. Thus human divers are protected at a 2% level based on psychological impact (*i.e.*, if it is assumed that 2% of divers will be affected psychologically when exposed to 145 dB), while marine mammals are protected at a 95% level based on physiological impact (*i.e.*, it is assumed that 95% of marine mammals will be affected physiologically when exposed to 180 dB)⁷. Using very different bases for very different "safe" exposure levels for humans and marine mammals is inconsistent with extrapolating from human auditory standards to *establish* the "safe" level for marine mammals.

The Scope of the LFS SRP

Phases I and III of the LFS SRI² were designed primarily to test a single and simple hypothesis, proposed in Richardson *et al.* (1995): "It is doubtful that many marine mammals would remain for long in areas where received levels of continuous underwater noise are 140+ dB at frequencies to which the animals are most sensitive" (p. 369). The results of the LFS SRP disproved this hypothesis. Very little else was accomplished (although changes in certain behaviors, including vocalizations, were noted) and certainly the hypothesis that LFA transmissions will have a negligible impact at 180 dB was not proved (nor was any evidence provided to support it). Science does not in fact prove hypotheses. It disproves hypotheses. Scientists make progress when studying complex subjects by eliminating hypotheses that are narrow in scope, approaching the subject incrementally. The LFS SRP was a preliminary study examining the impact of low frequency noise on marine mammals that eliminated one narrowly defined hypothesis for a small number of species; however, an alternative hypothesis -- that harmful acoustic impacts occur even when behavioral responses are minimal -- has not been eliminated, although it is more difficult to test⁸. Nevertheless, it remains a valid hypothesis.

⁷ The Navy has selected this less protective standard for marine mammals despite the fact that marine mammals are more dependent on sound and more likely to be exposed to LFA transmissions than human divers -- and arguably are just as likely to have aversion reactions, which may not manifest as avoidance.

⁸ However, there are studies that provide some indirect evidence in support of it, such as Todd *et al.* (1996), where feeding humpback whales showed no behavioral reaction to underwater blasting but subsequently exhibited increased fishing net entanglement rates, possibly due to hearing impairment. While it is unlikely that animals would remain in the impact zone of an aversive stimulus "unto death," it is possible that they would remain in such a zone, with minimal or no behavioral reactions, until injured (possibly leading to death) if a valuable resource were unavailable elsewhere. As a cross-species example, humans often knowingly remain (with little behavioral

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LFS SRP Species Selection

As a representative for The HSUS, I attended the May 1997 meeting in Boston at which the LFS SRP was first substantially discussed. I state for the record that my recollection of how species were selected differs from what is described in the FEIS, the LOA application, and the proposed rule. While the group generally agreed that the four mysticete species selected were likely to be among the most vulnerable to LFA transmissions, the group also agreed that sperm whales and beaked whale species were of *equal concern*. The sperm whale, in fact, was included in Phase III of the SRP, but in the end no data were collected on sperm whales because none were observed during the study period. Beaked whales were not included solely due to logistical concerns. In addition, the Boston discussion clarified that the four mysticete species were selected as much for their accessibility and the likelihood of collecting sufficient data as because they were considered representative models for other mysticetes. Given the subsequent stranding of beaked whales (and minke whales) in the Bahamas and the growing evidence from this incident that the resonance effects of active sonars may be far more relevant to safety concerns than auditory effects, clearly beaked whales continue to belong on the list of species potentially most vulnerable to LFA transmissions. The evidence from the Mediterranean (Frantzis 1998) and the Bahamas (K. Balcomb, letter dated February 23, 2001) suggests strongly that SPLs far lower than 180 dB for mid-frequency *and* low frequency sounds could have lethal effects on several species of beaked whales, over a relatively large geographic area. The complete failure of the FEIS or the proposed rule to take these and other as-yet-unavailable results into account when determining if SURTASS LFA sonar will have only negligible impacts on marine mammals violates the "best scientific information available" standard of the MMPA.

Northern Bottlenose Whale, White Whale, and Northern Right Whale

The HSUS believes the proposed rule, the LOA application, and the FEIS ignore vital information regarding these three species in particular. The Offshore Biologically Important Area (OBIA) off the North American east coast, stretching out from the Bay of Fundy, is meant to protect primarily the northern right whale (*Eubalaena glacialis*), the sei whale (*Balaenoptera borealis*), the humpback whale (*Megaptera novaeangliae*) and the northern bottlenose whale (*Hyperoodon ampullatus*). However, according to researchers who study the northern bottlenose whale, the limit of this OBIA to the 200m isobath offers little or no protection to this deep-water species (see H. Whitehead, letter dated May 4, 2001; L. Weilgart, letter dated May 8, 2001; S. Hooker and R. Baird, letter dated May 21, 2001).

The OBIA's main purpose, however, appears to be to protect the highly endangered northern right whale. Despite this goal, the OBIA may be insufficient to protect approximately one-third

modification) in injurious situations, when livelihood or housing demands require (e.g., coal miners risking black lung because the mines are a region's only viable employer; poor families living in marginal neighborhoods with environmental hazards because it is the only affordable housing).

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of the reproductive females, because their feeding/nursery area is *unknown* (Waring *et al.* 2000). In addition, some (individually identifiable) right whales travel across the North Atlantic to as far as waters between eastern Greenland and Scandinavia (Waring *et al.* 2000). The OBIA as designated would not protect these individuals as they travel to and from Norway or Iceland nor would it protect them once they were there. Finally, the overwintering ground(s) of individuals other than calving females and a few juveniles is/are also unknown (Waring *et al.* 2000), meaning the OBIA may be insufficient to protect the majority of the population during the winter. As the potential biological removal for this stock under the MMPA is currently zero, the take by LFA transmissions of even one individual could constitute jeopardy under the ESA.

Regarding white whales (*Delphinapterus leucas*, also known as beluga whales), this species is excluded entirely from the mitigation proposal. The FEIS states that white whales in Cook Inlet, an area potentially within the greater impact zone of LFA transmissions in the Gulf of Alaska, would not be affected by LFA transmissions. The HSUS fails to understand the rationale for this conclusion, especially given that white whales have exhibited marked avoidance responses (fleeing up to 80 km from an area where first disturbed) to relatively low levels of low frequency sounds (94- 105 dB in the 20 to 1000 Hz band) produced by icebreakers "at extraordinarily long ranges" (35-50 km) (Richardson *et al.* 1995, p. 257). It is plausible that Cook Inlet white whales would experience RLs from Gulf of Alaska LFA transmissions in at least this decibel range. Therefore, the exclusion of this stock, listed as depleted under the MMPA, from the mitigation proposal is not supported by the best scientific information available.

In conclusion, The HSUS maintains that the proposed rule, if implemented, would fail entirely to protect the Canadian population of northern bottlenose whales; would fail to provide adequate protection to the highly endangered northern right whale; and inappropriately excludes the Cook Inlet white whale stock, which is listed as depleted under the MMPA, from the mitigation proposal.

Resonance Effects

The HSUS notes that, despite the recommendations of a number of scientists, there is minimal discussion in any of the SURTASS LFA documentation (especially the FEIS) and no substantive consideration of the potential for resonance impacts on marine mammals exposed to low frequency sound. In fact, in several instances in the various documents, the primary and even sole impact of concern is identified as auditory effects, despite increasing evidence that perhaps the primary impact of concern should be non-auditory effects. As I am not a physicist or a bioacoustician, I will not write at length on this issue, but wish to incorporate the comments of Kenneth Balcomb (letter dated February 23, 2001), Dr. Mark McDonald (letter dated April 2001), Dr. Stephen Dawson (letter dated May 24, 2001), and Dr. Hal Whitehead (letter dated May 4, 2001) herein by reference.

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COMMENTS SPECIFIC TO THE PROPOSED RULE

p. 3.5379

In response to Comment 16, the NMFS states, "A preliminary determination on whether information is sufficient to make a determination that SURTASS LFA sonar is having no more than a negligible impact is a part of this rulemaking process" (column 2). *The HSUS strongly urges the NMFS to determine that available information is in fact not sufficient to make the necessary MMPA negligible impact determination.* There are no empirical data justifying the 180 dB acoustic harassment criterion; the Bahamas incident analysis is not yet completed; the LFS SRP, while providing preliminary information on the potential impacts of LFA transmissions at lower than proposed "safe" levels on a limited number of individuals of a limited number of species, did not examine several relevant parameters (including any long-term parameters, such as productivity) and is therefore of limited utility when making management decisions; and the entire basis for the preliminary negligible impact determination in the proposed rule rests on modeling and assumptions that cannot be ground-truthed using the proposed monitoring program.

In response to Comment 17, the NMFS dismisses the concerns of one commenter that several species of marine mammals were occluded from consideration (column 2). Several of these were ice seals. The Marine Mammal Commission, in its October 1999 comments on the draft EIS, pointed out that ice seals may range as far south as the Carolinas. Their categorical exclusion from consideration in the EIS is therefore not warranted.

p. 15380

In response to Comment 19, the NMFS states, "Because of the offshore nature of SURTASS LFA sonar operations, the Navy does not believe that there is a potential for SURTASS LFA sonar to result in marine mammal stranding incidents" (column 1). This may be true, but it misses the point. Animals suffering mortality or morbidity offshore are not likely to come ashore in a stranding event - they are likely to simply die and sink (which is clearly the ultimate fate of the vast majority of marine mammals, given the rarity of strandings and the number of marine mammals that must die every day). The implication in this statement (both the original by the Navy and here in the proposed rule) is that stranding is synonymous with mortality, which is clearly not true.

While it is true that many marine mammals are coastal in their distribution, there are significant numbers that are pelagic, during either all or part of their life cycle. These marine mammals will receive no protection from "the offshore nature of SURTASS LFA sonar operations" and will not strand if they are killed or seriously injured through exposure to LFA transmissions. Their failure to strand, our limited knowledge about their numbers and distribution, and the NMFS'

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failure to require monitoring beyond the 180 dB sound field mean that the Navy (and thus the NMFS) will almost certainly be unable to identify SURTASS LFA-related serious injuries and mortalities within these pelagic marine mammal populations, should they occur.

The NMFS states, "Because serious injury is unlikely to occur unless a marine mammal is well within the 180 dB SURTASS LFA sonar safety zone and close to the source, and because the closer the mammal is to the vessel, the more likely it will be detected . . . the potential for serious injury to occur is minimal" (column 2). The last part of this statement is true only if the preceding two conditions are true: that serious injury is unlikely to occur unless a marine mammal is "well within" the 180 dB sound field and that the closer a marine mammal is to the vessel the more likely it will be detected. The first condition is *a hypothesis only*. The monitoring program should be designed to provide data to help support or disprove this hypothesis. Unfortunately, it is not designed to do this. The second condition is not universally true. One possible exception: if a deep-diving whale such as a beaked or sperm whale were on a long, deep dive, it might approach quite closely to the vessel from below without increasing the likelihood of its detection.

In response to Comment 23 (column 3 and over to p. 15381, column 1), the NMFS states that it "*prefers* to require the Navy to concentrate monitoring in an area wherein marine mammals are more likely to incur an injury, than at distances wherein the incidental taking will be limited to short-term behavioral modifications" (emphasis added). The NMFS has no discretion to *prefer* one kind of monitoring over the other in this instance. The monitoring program *must* monitor the take authorized under the LOA (§101[a][5][A][ii][II]). As the LOA will not authorize take by serious injury (the only kind of injury assumed to occur within the 180 dB sound field, a "conservative" assumption the Navy emphasizes numerous times in its documentation) but only by harassment and non-serious injury, then the monitoring program *must* monitor *these* takes (see General Comments above). The NMFS *must* require the Navy to monitor "at distances wherein the incidental taking will be limited to short-term behavioral modifications" precisely because this limitation is *uncertain*; that is, it is merely a hypothesis that only short-term behavioral modifications and other harassment will occur at these distances. The monitoring program must be designed to collect data that will provide evidence to support or disprove this hypothesis.

p. 15382

In response to Comment 30, the NMFS states, "Since the HF/M3 [sic] sonar will be operating for a minimum of 30 minutes prior to initiation of SURTASS LFA sonar, ramp-up of the SURTASS LFA sonar is not necessary" (column 1). The HUSUS fails to see how ramp-up of the HF/M3 sonar, which differs in virtually all its characteristics from SURTASS LFA sonar, can serve as a substitute for ramp-up of SURTASS LFA sonar. If the Navy and the NMFS consider that the differing characteristics of the mid-frequency sonars used in the Bahamas make their impact

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irrelevant to an analysis of the potential impacts of SURTASS LFA sonar, then it is inconsistent for them to consider the sound characteristics of the HIF/M3 sonar to be effective as mitigation for SURTASS LFA sonar. Ramp-up of HIF/M3 sonar might warn away (or attract) high-frequency specialists, but it might have no effect (either to warn or to attract) on low frequency specialists.

p. 15383

In response to Comment 38, the NMFS makes the following statement:

NMFS notes that its preliminary negligible impact determination is based on research conducted by independent scientists, funded by the U.S. Navy, on 3 species of balaenopterid whales, that were determined most likely to be affected by SURTASS LFA sonar noise.

This statement embodies the main points about which The HSUS is most concerned regarding this proposed rule. The preliminary determination is based on extremely limited research – limited in the sense of the small number of species examined; the small sample sizes; the narrow scope of the hypotheses tested; the limited range of “treatments” (i.e., no RLs higher than 155 dB); and the short duration of observations (on the order of hours). And it is based on work funded by the U.S. Navy – while it is admirable that the Navy made funds and the LFA transmitter and support vessel available for this research, there is a conflict of interest question raised by basing all subsequent management decisions on research it funded⁹. In addition, The HSUS believes that this statement is incomplete – the preliminary determination is also based on Navy modeling and the assumptions (some of which may be valid, some of which may not) upon which that modeling is based.

I stated at the Boston meeting in 1997 and have maintained ever since that the LFS SRP, while a good “first step,” was too limited in scope to adequately inform the NEPA process and subsequent management decisions. *This research, while providing limited new information about the impact of low frequency sound on some mysticetes, provides virtually no data relevant to the fundamental management questions raised by the proposed deployment of SURTASS LFA sonar.* Certainly the conclusions that have been drawn from this research are unjustified, not the least of which is the NMFS’ preliminary determination that SURTASS LFA sonar will have only a negligible impact on marine mammals (and fish and sea turtles).

⁹ The HSUS notes that apparently very few of the independent scientists involved in the LFS SRP submitted comments on the proposed rule or the draft EIS; the exceptions of which we are aware are non-Americans. While it is possible that none of the non-commenting scientists had any comments to make, The HSUS is aware that some scientists who receive funding from the Office of Naval Research (ONR) and are familiar with the LFS SRP have criticisms of the FEIS and proposed rule, but have declined to submit comments. We also note that several non-commenting LFS SRP scientists continue to pursue projects funded by the ONR.

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p. 15385

Under "Risk Analysis" (column 3), the NMFS considers behavioral harassment to be defined as "a significant disturbance of a biologically important behavior." Under the MMPA, Level B harassment *is* defined as any act that "has the *potential* to disturb" a number of behaviors that could be considered biologically important (§3[18][A][ii], *emphasis added*). Therefore, it is not consistent with the MMPA for the NMFS to limit its definition of harassment to those acts that actually *cause* a disturbance, let alone cause a *significant* disturbance.

p. 15386

The NMFS states, "[T]he LFS SRP failed to document any extended biologically significant response at maximum RLs up to 150 dB" (column 1). The NMFS should clarify what it means by "extended," because, given that the LFS SRP did not observe the affected whales for more than a few days (and in most cases, for less than one day) after their exposure to LFA transmissions, it might be said that the LFS SRP failed to document any extended response because it did not *look for any* extended response.

The NMFS states that scientists are in general agreement that temporary threshold shift (TTS) is not an injury (column 2). It also reiterates the conclusion that 180 dB is a conservative estimate for onset TTS based on Schlundt *et al.* (2000). The HSUS strongly disputes both these statements. There are a number of scientists (some of whom are submitting comments on this proposed rule) who do not agree that TTS is not an injury. While a legitimate debate *may* exist on whether it is a serious injury, it is arguably a non-serious injury with the potential to lead to serious injury and even mortality. While suffering the effects of TTS, a marine mammal may be more vulnerable to predation, ship strike, or entanglement. As for considering 180 dB a conservative estimate based on Schlundt *et al.*, this study looked at masked threshold shifts¹⁰ and examined a very small number of animals of only two species (both odontocetes, which are high frequency specialists). Calling any broadly-applied standard based on the results of such a limited study "conservative" is unwarranted.

As in previous proposed rules for acoustic-related authorization requests, the NMFS maintains that "onset PTS [permanent threshold shift], not onset TTS, is considered...to be the lower end of Level A harassment" (column 2). The HSUS states again for the record that it strongly opposes this standard and believes it is in violation of the MMPA's definitions of Level B and Level A harassment. Level A harassment has the *potential* to injure – onset PTS is clearly an injury and is potentially a *serious* injury for an acoustically oriented marine mammal.

¹⁰ "[M]asking noise results in elevated hearing thresholds and decreases the amount of TTS observed" (Schlundt *et al.* 2000, p. 3496).

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p. 15388

Under "Research" (column 2), the NMFS states, "While NMFS believes that research conducted to date is sufficient to assess impacts on... marine mammals... it believes that it would be *prudent* to continue research..." (emphasis added). The IISUS points out that it is not **only prudent**, but required by law. The LTM program (included under the heading of "research") is part of the monitoring and reporting requirements under the MMPA. However, not only is continued research prudent from a scientific standpoint, it is *necessary* in order to verify the assumption that no serious injuries or mortalities will occur beyond the 180 dB sound field. Given that evidence is building that mortality of whales (especially beaked whales) is possible due to resonance effects (resulting from exposure to mid-frequency *and* low frequency sonar sounds) at levels far below 180 dB, clearly the LTM program goes beyond prudence to necessity.

p. 15389

Under Classification (column 2), the NMFS states, "Without an authorization under the MMPA, NMFS and the public are unlikely to receive [information from the Navy's SURTASS LFA monitoring and research program]." The HSUS has **previously expressed** concern about similar proposed rule statements, which imply that the Navy would move forward with its proposed action without authorization, even though it anticipates the take of marine mammals. This would be in violation of the MMPA; therefore we reiterate this concern here.

COMMENTS SPECIFIC TO THE LOA APPLICATION

My comments on the LOA application will be limited, because many of my General Comments refer to elements in the LOA application. In addition, elements of the proposed rule are redundant to the LOA application.

p. 12-13 (section 2.2.2)

The LOA application periodically makes references, as on these two **pages**, to "facts" that are actually only speculation. For example, the LOA application states "The operating procedures have been designed so that the source level [of the HF/M3 sonar] would be adjusted to *ensure* that RLs are below harmful levels as marine mammals neared the HF/M3 sonar" (p. 12, **emphasis added**). Given that the RLs of high frequency sound that cause harm (defined for the sake of argument as PTS or resonance *injury*) to marine mammals are unknown, The IISUS fails to see how the Navy can *ensure* the safety of marine mammals near the HF/M3 sonar. On p. 13, the application states "whales were detected at ranges that were nominally twice... those *required* for SURTASS LFA sonar monitoring mitigation..." (emphasis added). Required mitigation has yet to be finalized and doing so is indeed one of the main purposes of the proposed rulemaking process. The Navy's reference to *required* mitigation in its LOA application is therefore

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premature and misleading, as its use implies the Navy is exceeding a standard, when no standard yet exists.

p. 18-25 (Table 3-1)

The HSUS notes that of the 33 species or species-complexes considered in Table 3-1, 24 (73%) have "no hearing data available." While this is not surprising, it merely underlines that while researchers have some idea of the frequency range of best hearing for many of these species because they know the frequencies of the species' vocalizations, they have very little knowledge of how most cetaceans process or react to sounds or how sounds physically impact them. Making assumptions about "safe" levels in the face of such ignorance is not precautionary.

p. 36 (section 4.2.2)

As noted in The HSUS' draft EIS comments (October 28, 1999), the Acoustic Integration Model (AIM), although sophisticated and impressive in its ability to simulate various scenarios and the predicted RLs for various species, nevertheless is based on a number of assumptions, with either very little or no empirical data available to support or disprove those assumptions. The model is valid only if the assumptions are correct and at this point, most of the assumptions, such as the distribution of species, are largely guesswork. We also note (from Table 4-4) that most of the species are assumed to have uniform distribution at depths greater than 200m. While this is presented as a conservative assumption (because distribution is in truth probably clumped, meaning a large percentage of the time, *no* animals will be impacted by LFA transmissions), it could result in "disaster transmissions" – very similar to what happened in the Bahamas – where a single SURTASS LFA operation could result in a large number of individuals being injuriously impacted because they are clumped within the LFA transmission impact zone. The LOA application (and the FEIS and proposed rule) inappropriately never considers this possibility.

p. 45 (section 4.3)

The LOA application often misleadingly presents information as universally agreed-upon by marine mammal biologists and other marine scientists. For example, here it states, "Marine mammal biologists and marine bioacousticians agreed that, based on the best available data, including results from the LFS SRP, and best scientific judgment," risk is as subsequently described. However, there are a significant number of marine mammal biologists and marine bioacousticians who do *not* agree with this. These statements misleadingly imply that the Navy's position is supported by a majority of the marine mammal science community, whereas discussion on forums such as MARMAM (the internet discussion group for marine mammal biologists) suggests otherwise.

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p. 48 (section 4.3.2)

The LOA application states "...a marine mammal would have to receive one ping greater than or equal to 180 dB or many pings at a slightly lower RL to possibly incur non-serious injury." This is inconsistent with discussions elsewhere in the LOA application and in the FEIS and the proposed rule. According to those discussions, all marine mammals who receive a ping greater than 180 dB are presumed *injured* (that is, seriously injured). This is presented as a conservative assumption and is the basis for the mitigation proposal, which seeks to exclude all marine mammals from the 1 km serious injury impact zone (corresponding to the 180 dB sound field). Thus, this sentence and the rest of the paragraph appear to contradict these other discussions. According to these discussions, if a marine mammal receives a ping at a RL greater than 180 dB, it will not only *definitely* (as opposed to possibly) incur non-serious injury (the risk continuum goes to 100% at greater than 180 dB), it will definitely incur *serious* injury, as a "conservative" assumption.

The paragraph goes on to state that an animal would have to be nearly co-located with the sound source (operating at well over 200 dB) to incur serious injury. The HSUS strongly objects to this characterization, not only because we believe it is overly optimistic about risk, but also because it is inconsistent with previous discussions about the risk continuum and its assumptions.

Later on this page, the LOA application states that an animal must be able to *hear* low frequency sound to be affected by LFA transmissions. This is not necessarily true – animals can be physically impacted (through resonance effects) by a sound even if they cannot hear it.

p. 50 (section 4.4.2)

The LOA application (and the FEIS) note that during Phase I of the LFS SRP, "the distribution of fin and blue whales appeared to be more influenced by prey than by the playbacks." The HSUS notes that this result could be seen to support the hypothesis that an animal might show little if any behavioral reaction to an aversive sound if the activity in which it is engaged is important enough to its survival or reproduction. In other words, the fact that fin and blue whales followed the prey patches could be interpreted to mean that, even in the presence of a harmful sound, feeding was more important, to the extent that they exhibited little if any reaction to the sound. The HSUS does not claim that this result *proves* this, merely that it could be interpreted this way – the failure of the LOA application or the FEIS to consider this possibility suggests a bias toward interpreting scientific results to favor SURTASS LFA deployment.

p. 52 (section 4.5.1)

The LOA application mentions that Richardson *et al.* (1995) conjectured that prolonged exposure to 120 dB might cause PTS in *odontocete* species at their most sensitive frequency.

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The application then states that because LFA transmissions occur well below odontocete "best hearing" frequencies, "it is unlikely that exposure to [LFA transmissions] at 120 dB could cause threshold shifts in *whales*" (emphasis added). The HSUS fails to see how the acoustic behavior of odontocete species accurately predicts the acoustic behavior of *whales* (presumably all whales, including mysticetes).

p. 54-56 (section 4.5.4)

Please see General Comments above for comments on the 180 dB criterion. The discussion in the LOA application differs slightly from the discussion in the FEIS; neither is convincing. In section 4.5.4, I note two statements in particular that are problematic. First, on p. 55, the LOA application refers to "the scientific hypothesis that marine mammal hearing thresholds have evolved from levels on the order of ambient noise" when referring to the ambient noise levels at low frequencies. That is, the LOA application is speculating that cetaceans who hear best at low frequencies would have higher hearing thresholds than cetaceans who hear best at high frequencies because ambient noise levels in the ocean are higher at low frequencies. The problem is that the evolution of cetacean hearing abilities occurred literally over millions of years and we can only speculate on the level of low frequency ambient noise during this time. If the LOA application is implying that we can use contemporary low frequency ambient noise levels to speculate on cetacean hearing thresholds, The HSUS strongly disagrees. Low frequency ambient noise has been increasing by orders of magnitude in this century; clearly we cannot use these levels to speculate on the noise-related environmental conditions that shaped the evolution of cetacean hearing abilities.

The second statement also the LOA emphasizes the of population harassed"

¹¹. However, The HSUS notes that the Navy downplays individual when evaluating, for example, Schlundt *et al.* (2000), where the small sample size of five dolphins (only two of which were tested at each frequency) clearly weakens the general applicability of the results, given the relatively high probability that the hearing thresholds of these individuals are unlikely to represent the norm for the species (let alone other species). This is yet a further example of the double standard mentioned below (see Comments Specific to the FEIS, subchapter 3.2.5.1).

p. 75 (section 4.7.5)

The LOA application states, "Even with a 25 percent reduction in foraging efficiency for all of the 20 days, this would represent only a 5 percent reduction in food intake for that season."

¹¹ That is, since no two individuals can be expected to react to LFA transmissions in the same way, assuming only partial numbers of a population will be harassed or non-seriously injured at any one frequency is realistic and justified.

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Given the limited foraging season for most mysticetes, a reduction in efficiency of 5% might be the fine edge between breeding successfully that year or not (and even possibly between surviving to the next season or not). The dismissive way the LOA application treats such a possibility is disturbing.

COMMENTS SPECIFIC TO THE FEIS

I am limiting my comments on the FEIS, as I recognize that the NMFS is limiting its consideration of comments to those that address the proposed rule and LOA application directly. In addition, many of my Comments on the draft EIS remain relevant, as the Navy either did not address them or they did so in a limited or dismissive way, and therefore it would be redundant for me to repeat them. However, I wish to make a few comments, as the FEIS serves as the NEPA documentation for the proposed rule. My comments will focus on elements new to the FEIS (not found in the draft HIS) or involving information of which I have only recently become aware.

Estimating the Potential for Injury to Marine Mammals (Subchapter 1.4.2.1)

The FEIS, in contrast to the draft EIS, provides an elaborate discussion of how the Navy extrapolated from human auditory standards to justify the 180 dB criterion for the upper limit of acoustic harassment and non-serious injury. There are problems with this discussion. First, and most important, the use of human auditory standards is flawed. Inter-specific and inter-individual variability in hearing capabilities and characteristics is significant, particularly between terrestrial and marine species. Hearing mechanisms in water differ from those in air – adaptations to receiving and perceiving sound in the two physical media make comparisons regarding TTS and PTS between terrestrial and marine species problematic (as the Navy itself has pointed out on numerous occasions). Yet the Navy relies heavily on just such a comparison, with a minimum of caveats regarding the direct application of values from one medium and species to the other, to justify its conclusion that SURTASS LFA sonar will have a negligible impact on marine mammals. The debate about the appropriateness of using human (or any terrestrial species) hearing as a model for marine mammal hearing is on-going and lively in the scientific community; it is highly questionable whether the FEIS' discussion, including its direct use of human values without any correction factors when calculating the marine mammal values in Table 1-4, would in fact pass peer-review.

Another significant problem is the FEIS' use of values found in Ward (1997), especially his "Equivalent Quiet" (EQ) values. The EQ value of 70 dB re 20 μ Pa, used on p. I-27 to predict retroactively the results from Kastak *et al.* (1999), is for humans in air. It is not *only* highly unlikely that the EQ value would be the same for marine mammals in water, but the empirical data from Kastak *et al.* indicate that it is *not* the same. Kastak *et al.* determined that RLs

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between 65-75 dB re 1 μ Pa could reliably produce small levels of TTS in pinnipeds. Therefore, the FQ value for pinnipeds in water should be approximately 10 or even 15 dB below 65 dB, or about 50-55 dB. In short, the FEIS appears to have ignored empirical evidence if it did not lead to the desired result of a 180 dB criterion for the upper limit of acoustic harassment.

Information Regarding Strandings of Beaked Whales (Subchapter 3.2.5.1)

The FEIS, in response to numerous comments, includes a new section discussing the issue of beaked whale strandings that have occurred in proximity to naval maneuvers. However, The HSUS finds this discussion to be wholly inadequate and dismissive. The Navy continues to maintain (and the NMFS appears to concur in the proposed rule) that, because the active sonars used in the Bahamas were mid-frequency sonars, the incident is not "relevant" to SURTASS LFA sonar use. Given the clear potential for resonance effects (versus auditory impacts) and the fact that low frequencies were transmitted in a similar sonar-correlated event in the Mediterranean (Frantzis 1998), clearly this dismissal is neither scientifically justified nor precautionary. In addition, the decision to complete the FEIS (as well as to proceed with rulemaking) before the final results of the analysis of the Bahamas incident are available violates the "best scientific information available" standard. The discussion in this subchapter has obviously been truncated because of this rush to publish without all information in hand.

The HSUS concurs with the comment submitted by Dr. Hal Whitehead regarding the statement in the FEIS that correlative studies "can[not] provide evidence for causation" (p. 3.2-46). This is incorrect and reflects a misunderstanding of the scientific method. Science, whether correlative or experimental, provides and identifies evidence for causation. The theories of evolution and natural selection were both largely developed using correlations. Clearly correlation provides evidence for causation. It does not, as the FEIS correctly maintains later on the same page, "prove causation," but this is a different statement. The correlation of all the known mixed species mass strandings involving beaked whales with nearby naval maneuvers (IWC: 2001) most certainly provides evidence for causation.

The HSUS wishes to state once again for the record that it objects to the double standard the Navy (and the NMFS by concurrence) continues to follow. If it is appropriate to extrapolate from human auditory standards (determined using sound sources and frequencies very different from the LFA sound source, in a different medium) to establish the 180 dB criterion for marine mammals; and if it is appropriate to extrapolate from results of studies using small numbers of high-frequency specialists (i.e., bottlenose dolphins and white whales), exposed to a very different sound source and both similar and different frequencies using masking protocols, to label the 180 dB criterion as "conservative"; then it is inconsistent to reject as not relevant a comparison to the actual impact on beaked whales (a taxon believed by many, including the FEIS, to be potentially vulnerable to low frequency sound impacts) and minke whales (a low

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frequency specialist) of a different sound source, at different frequencies, under circumstances similar to those under which SURTASS LFA sonar will be operated.

In short, the Navy's decision to compare and relate disparate data sets in one instance while not doing so in another appears arbitrary and based solely on whether the comparison supports the Navy's proposal to deploy SURTASS LFA sonar. The Bahamas incident shares many characteristics similar to potential SURTASS LFA outcomes – the differences should perhaps be regarded as differences in degree rather than kind. In contrast, the behavior of sound in air and water differs greatly, while the evolution of human and marine mammal hearing has diverged in response to these differences as well as to other environmental and biological factors. The differences between human and marine mammal hearing should perhaps be regarded as differences in kind. While comparisons between kinds need not be entirely rejected, they should be made with extreme caution. Comparisons between degrees are more legitimate – yet the Navy has embraced the former and rejected the latter.

The HSUS maintains that the Navy's summary rejection of emerging information regarding the correlation between beaked whale mass strandings and the use of mid-frequency standard tactical sonars in its analysis of potential impacts of SURTASS LFA sonar use on the marine environment is unwarranted, arbitrary, and biased.

Cumulative Impacts (Subchapter 4.4)

According to information I have received from European contacts, the navies of other countries, including the United Kingdom, France, and Germany, as well as the North Atlantic Treaty Organization (NATO) (Frantzis 1998), are developing their own low frequency active sonars. While the U.S. Navy asserts that it will deploy "only" four SURTASS LFA sonar vessels, of which only two will normally operate simultaneously¹², clearly there may be other low frequency sonars operating in concert or in tandem with SURTASS LFA sonar. NEPA requires a cumulative impact analysis of the proposed activity in conjunction with other human activities, and given the development of these other sonars, clearly the Navy should have considered the cumulative impact of multiple low frequency sonars operating simultaneously in the same ocean basin.

The discussion in subchapter 4.4 in the FEIS implies that, with shipping noise and seismic surveys having increased substantially in recent decades, LFA transmissions should be seen as a

¹² The FEIS highlights this small number of vessels as one of the reasons U.S. Navy LFA transmissions will make only a small contribution to the cumulative impact of low frequency anthropogenic noise on the marine environment (p. 4.4-3). Given that other LFA-like transmitters will be operating in the world's oceans (potentially simultaneously or near-simultaneously with SURTASS LFA sonar), this distinction inappropriately undermines the very purpose of the cumulative impact requirement of a NEPA analysis. Simply because SURTASS LFA sonar is only one among many low frequency sound sources does not mean it is discountable.

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minor contribution to their cacophony. However, although undoubtedly ambient noise has increased in the world's oceans, largely due to shipping, LFA transmissions nevertheless stand out from this increasing hum. Comments submitted by others, including Dr. Mark McDonald (letter dated April 2001), who has recorded LFA transmissions during his marine acoustic studies, highlight this. Marine mammals at a minimum may react with a startle reaction similar to Dr. McDonald's when he first heard an LFA transmission on a sonobuoy from a distance of nearly 1000 miles. Should any marine mammals be closer than that, other impacts of increasing severity may occur,

It is of interest to note that most of the anthropogenic sounds described in subchapter 4.4 are not specifically designed to have a wide geographic impact (notable exceptions include the Acoustic Thermometry of Ocean Climate [ATOC] sound source). Either the noise they produce is incidental to their operation (e.g., shipping) or the range of impact is intended to be localized (e.g., seismic surveys). However, the very purpose of SURTASS LFA sonar is to detect submarines at great distances (in the range of hundreds of miles). Therefore, the characteristics of the sound it produces should and must allow it to travel at an effective SPL (whatever that is) for great distances. In other words, while other anthropogenic sounds may be as loud and as low in frequency, LFA transmissions may be unique in other characteristics (e.g., signal duration, bandwidth, sweep, depth of propagation) such that loud, long distance travel is ensured. Again, Dr. McDonald's experience supports this conclusion.

Responses to Public Comment in the FEIS (Chapter 10)

The HSUS states for the record that WC consider the Navy's responses to public comments submitted during the comment period for the draft EIS, as presented in chapter 10 of the FEIS, to be inadequate and dismissive overall. We find several responses meet the criteria for "arbitrary and capricious" under the standards of the Administrative Procedures Act. For example, the response to comment 4.4.2.1 indicates that Dr. Peter Tyack has performed a correlation analysis between stranding events and SURTASS LFA operations over the past 10-12 years, but then does not present the analysis. The data input, methodology, and actual results of the analysis are not provided. Therefore, this amounts to simply accepting the Navy's word that an analysis (properly designed, with valid assumptions) resulted in a probability value that supported the null hypothesis that strandings were unrelated to LFA transmissions.

Dr. Hal Whitehead, on the other hand, submitted another analysis, to determine the probability that recorded beaked whale mass strandings occurring in proximity to unspecified "military activities" were coincidental to those activities (letter dated May 4, 2001). Unless "military activities" occur with improbable frequency, it is highly unlikely that the known mass strandings of beaked whales around the world are completely unrelated to them. While beaked whales strand for reasons other than exposure to sounds generated by "military activities," apparently when they are exposed to such sounds under the right circumstances (including being in

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proximity to land), they tend to strand. In addition, the (now) seven known mixed species mass strandings involving beaked whales have all occurred in proximity to "military activities" (IWC 2001). Cetacean strandings are rare regardless of any relevant factor, including the fact that hundreds (if not thousands) of cetaceans must die every day. The fact that "military activities," whatever their frequency, rarely (although not insignificantly) correlate with strandings is not the same as saying they rarely have a lethal effect on cetaceans.

If the Navy is going to rely on a scientist's analysis to support its responses to public comment, it must present the analysis, to allow adequate evaluation of its assumptions, methods, and results. For example, in the case of Dr. Tyack's analysis, it is unknown if he looked at all the operations involving SURTASS LFA sonar and then determined if any strandings occurred nearby or if he looked at all known strandings and then determined if SURTASS LFA sonar had been operating nearby. It is unknown what species he examined. It is unknown if he had access to information on every use of SURTASS LFA sonar or only de-classified uses. It is unknown what statistical test he used or what *p*-values he obtained. Without this information, the Navy's response to Comment 4-4.2 I is at best incomplete. In general, many of the responses in chapter 10 do not provide enough information to evaluate their adequacy. Despite the fact that several credible scientists made a number of similar comments, the Navy's efforts to address these informed concerns were at best minimal and at worst arbitrary and capricious.

CONCLUSION

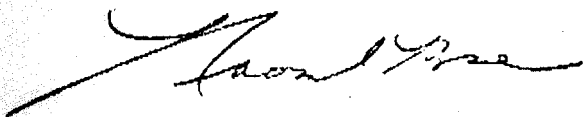
The HSUS finds the Navy's application for a small take exemption authorization to be premature, given the current state of ignorance regarding the impacts of loud, low frequency anthropogenic sound on marine mammals. We are particularly concerned with the lack of real-time (and effective long term) monitoring of the geographic areas in which the authorized take will occur -- both because this lack of monitoring is in violation of the MMPA and because it will not allow the Navy and the NMFS to verify the many assumptions upon which the negligible impact determination is based. It also means the Navy will be unable to verify that no serious injuries or mortalities occur beyond the 180 dB sound field as currently predicted.

The NMFS should withdraw or substantially revise this proposed rule. At a minimum, the final rule must include a detailed monitoring plan for the "harassment and non-serious injury" impact zone between 150 dB (ideally 120 dB) and 180 dB. In addition, the final rule must be revised to include adequate protection for the highly endangered northern right whale. Without these key revisions, the small take regulations will violate the MMPA and the ESA. The HSUS will consider all options, including legal action, to ensure strict compliance with these environmental laws.

Thank you for the opportunity to comment on this extremely important matter.

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Sincerely,



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Marine Mammal Scientist
Wildlife and Habitat Protection

Cc: The Honorable Daniel Akaka, Senate
The Honorable Barbara Boxer, Senate
The Honorable Susan Collins, Senate
The Honorable Judd Gregg, Senate
The Honorable Ernest Hollings, Senate
The Honorable Daniel Inouye, Senate
The Honorable John Kerry, Senate
The Honorable Olympia Snowe, Senate
The Honorable Ted Stevens, Senate

The Honorable Neil Abercrombie, House of Representatives
The Honorable Thomas Allen, House of Representatives
The Honorable John Baldacci, House of Representatives
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The Honorable John Conyers, Jr., House of Representatives
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The Honorable Jim Saxton, House of Representatives
The Honorable José Serrano, House of Representatives
The Honorable Frank Wolf, House of Representatives
The Honorable C. W. "Bill" Young, House of Representatives

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